APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,570	02/11/2002	Akira Okawa	FUJI 19.420	5131

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EXAMINER
QURESHI, AFSAR M

ART UNIT	PAPER NUMBER
2616	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
31 DAYS	02/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

	Application No.	Applicant(s)
Office Action Summary	10/073,570	OKAWA ET AL.
	Examiner	**Art Unit**	
	Afsar M. Qureshi	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 December 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some *   c)☐ None of:

        1.☒ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

Response to Amendment

1.   This office action is responsive to RCE and amendment received on 12/21/2006.

Response to Arguments

2.   Applicant's arguments filed on 12/21/2006 have been fully considered but they
are not persuasive.

In reference to claim 1, Applicant argues that the cited reference, Kim et al (US
6,151,334), fails to disclose the entire claim. Examiner contends that all the limitations
are anticipated by the cited reference as discussed in the rejection of claim 1 and
respectfully submits that Applicant point out specific limitations not anticipated by said
reference.

Applicant amended claim 2 by adding "sequentially to" (and deleting "in an order
of") in response to rejection under § 112 (dated 9/21/2006). Examiner contends that the
subject matter still remains indefinite. It fails to distinctly claim the subject matter which
applicant regards as the invention. Specification discloses (i) determining if the FIFO
memory part has sufficient empty memory capacity and (ii) "when the middle FIFO
memory 12 is *saturated*, it is determined that the FIFO memory part 100 has insufficient
empty memory capacity" (page 9,lines 22-24). However, there is no support for " ...
input signal is stored *sequentially to* the first memory" in the Specification.

Specification

3.   The disclosure is objected to because of the following informalities: On page 9,

line 21, " in which there is no the data signal..." is not clear. It appears to be a

typographical error.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

4.   Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention.

Applicant amended claim 2 by adding "sequentially to" in line 4. However, it still

does not clearly define as to how the input signal is stored in an order of the first

memory part, the second memory part, and the third memory part". The amended

"sequentially to" lacks antecedent basis in the Specification.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5.   Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Kim (US 6,151,334).

Considering claim 1, Kim discloses plurality of input interfaces for input signals and a multiplexer 48 (see figures 2 and 3). Kim further discloses a device for processing data signals comprising: a storing part storing an input signal (column 2, lines 40-41), an extracting part extracting said data signals included in said input signals from said storing part (column 2, lines 56-58) and outputting said data signals at a desired output speed (column 2, lines 29-30, where providing high speed data transfer inherently means outputting at a desired speed), and wherein said extracting part outputs said data signals based on storage information (control characters) of said input signal (column 2, lines 63-66).

It should be noted that this device as taught by the applicant could be considered a common de-multiplexer. A de-multiplexer stores incoming data (storing part) and extracts specific parts of the data based on "storage information," just as applicant's device claims.

Kim further discloses that a signal is output stating buffer state (see col. 18, lines 59 through col. 19, lines 1-25).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.   **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Brown (US 6,721,295)

Kim has the device of claim 1 with a storing part but does not disclose what the storing part includes. Brown teaches a system for high data communication systems that uses three memory parts, or buffers (Figure 5) where data, and thus input, is stored (as is the purpose of a memory buffer). In Brown, the third memory buffer is used for signaling information (or storage information, as loosely recited by the applicant). In view of the broad limitations as set forth by the applicant, the third memory buffer can be the "second memory part" of applicant's claim (and thus Brown's first and second memory buffers are now applicant's first and third memory parts). It would have been obvious to one skilled in the art at the time of the invention to include in Kim's data processing device the storing part of Brown in order to minimize or even reduce computational complexity and hardware requirements (column 1, lines 36-39).

7.   Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Matsunaga (US 6,504,855)

Considering claims 3 and 4, Kim has a device for processing data signals as described in claim 1. As mentioned in the rejection of claim 1, applicant's language describes a de-multiplexer, a device Kim similarly teaches. Kim discloses that if there are no data words (empty release) the scheduler sends a control signal (see col. 8, lines

26-28). Kim, however, does not teach the method of dealing with input and output

signals of varying speeds. Matsunaga, in the same field of endeavor, discloses a device

where the extracting part (encoder) outputs data signals in which an invalid data signal

is inserted/included to/in the input signal (column 2, lines 38-44 and column 6, lines 35-

46). It would thus have been obvious to one skilled in the art at the time of the invention

to use Kim's de-multiplexer in Matsunaga's device for extracting including data signals

to be processed by the encoder and buffer.

Considering claim 5, as discussed above, Matsunaga's device is able to recognize

valid vs. invalid data. Inherently, a monitoring part must exist in order to make this

distinction. Furthermore, as taught by the applicant, a data determining part gives a

determination notice to input invalid data. Therefore, as loosely recited by the applicant,

the encoders of Matsunaga have a data determining part that serves the same function

of deciding to input invalid data. It is thus obvious to one skilled in the art that

Matsunaga's device also comprises a monitoring part monitoring said data signals

(determination of validity of data bytes), a data determining part determining said data

signals based on a notice of said storage validity of said data signals from said

monitoring part, an invalid data generating part generating invalid data to insert into said

data signal, whereas said invalid data generating part inserts said invalid data to said

input signal in response to a determination notice from said data determining part

(column 2, lines 38-44).

8.   **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Knapp (US 6,874,048).

Kim has the device of claim 1 with an extracting part but does not disclose what the extracting part comprises. Knapp teaches a method and device in a communication system for sending data that supports multiple forms of data (column 2, lines 34-35). Knapp further discloses a device and method in which a NO DATA command is used where the controller will ignore the data received (column 15, line 59-60). Inherently, by ignoring data so that it is not processed, the same function is achieved as applicant's deletion of no-data codes. Therefore, a device is disclosed which comprises a monitoring part monitoring data signals (controller), a no-data code determining part (controller) determining a no-data code and a deleting part (or ignoring part) deleting said no-data code included in said data signal. It would have been obvious to one skilled in the art at the of the invention to include in Kim's data processing device the device of Knapp so as to allow for a better and more flexible communications system capable of supporting multiple forms of streaming and non-streaming data.

9.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Afsar M. Qureshi whose telephone number is (571) 272 3178.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Field Lynn can be reached on (571) 272 2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO

Customer Service Representative or access to the automated information system, call

800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AFSAR QURESHI
PRIMARY EXAMINER

2/7/2007